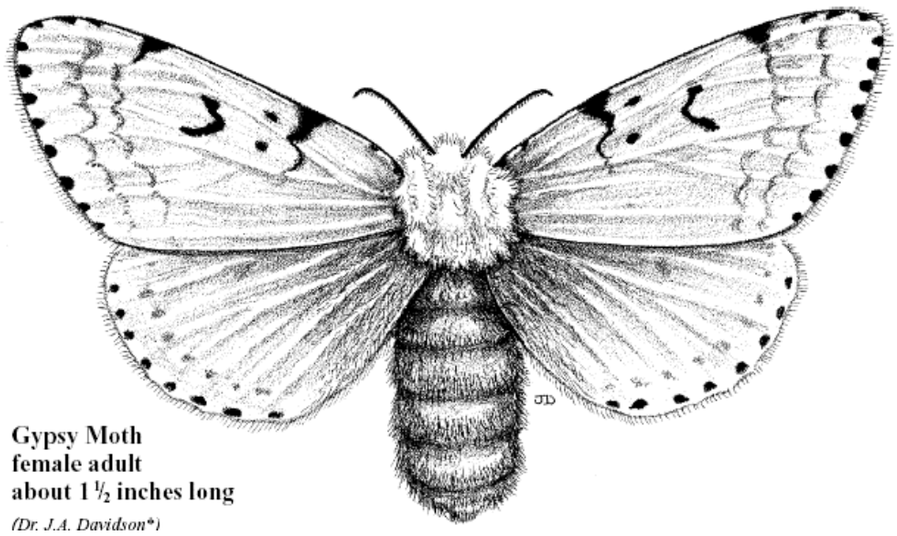
Prince William Forest Park
National Park Service
U.S. Department of the Interior
Prince William Forest Park
Triangle, Virginia

Gypsy Moths



Gypsy Moth
female adult
about 1 ½ inches long
(Dr. J.A. Davidson)*

Gypsy Moths in North America

The gypsy moth, *Lymantria dispar*, is one of North America's most devastating exotic pests. The species originally evolved in Europe and Asia and has existed there for thousands of years. In either 1868 or 1869, the gypsy moth was accidentally introduced near Boston, MA by E. Leopold Trouvelot (an amateur entomologist). About 10 years after this introduction, the first outbreaks began in Trouvelot's neighborhood. In 1890, the State and Federal Government attempted to eradicate the gypsy moth. These attempts ultimately failed and since that time, the range of gypsy moth has continued to spread.

Unwelcome Visitors

True to their name, Gypsy Moths have hitched rides from place to place, traveling forest to forest southward from New England. In the Washington area, where their favorite oak trees are plentiful, gypsy moths have multiplied in a few years to numbers that threaten to destroy trees that are the pride of the nation's capital.

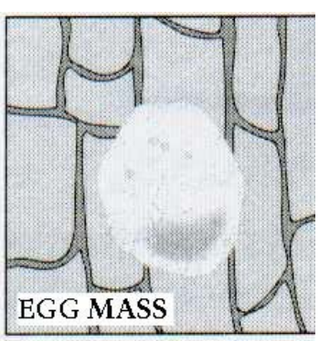
Gypsy moths have made their way to national parks as tiny larvae hanging on silken threads drifting in the wind. They sometimes ride from infested areas in camping gear or under cars and recreational vehicles. First detected in the capital area in 1982, their numbers have spread to Rock Creek Park, Fort Dupont Park, George Washington Memorial Parkway, Great Falls Park, Catoctin Mountain Park as well as Prince William Forest Park.

Gypsy moths have shown remarkable capacity to survive. There is as yet no practical way to get rid of them without severe harm to other woodland life.

Gypsy Moth Defoliation

When gypsy moth densities reach high levels, large quantities of foliage are consumed and partial or total defoliation of the forest canopy may occur. Gypsy moth outbreaks often extend over hundreds of miles and the larvae have been known to defoliate up to thirteen million acres of trees in one season, damaging local ecosystems and killing trees outright.

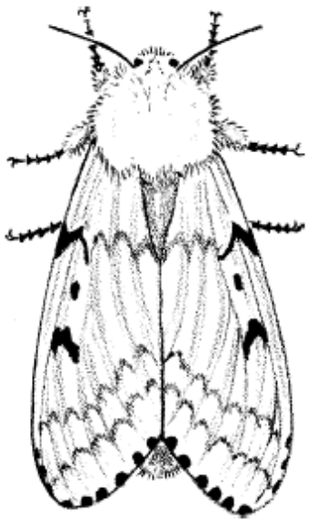
The gypsy moth is not too terribly choosy on the trees that it eats. It is known to feed on hundreds of different tree species in North America. However, within most forests in the Eastern US, there are some species that are highly preferred by the gypsy moth, such as Sweetgum, Willow, Birch, Quaking Aspen and all varieties of Oak. Gypsy moth populations may exist for many years at low densities such that it may be difficult to find any life stages. Then, for reasons that are not completely understood, populations may rise to very high densities and substantial defoliation of the canopy may occur.



Changing Faces of the Gypsy Moth

Adult Male

Adult Female



EGG STAGE

The female gypsy moth lays between 500 to 1,000 eggs in August. They are laid all at once in a mass that is covered with velvety, buff-colored hair from the female moth's body. The larva starts developing during the remaining warm days of summer. As winter approaches, the tiny larva goes into diapause. That means it shuts down and goes through the winter without growing or developing until spring. The eggs hatch in mid-May, just in time to start munching on new green leaves.

LARVA STAGE

This stage is also known as caterpillar, the worm-like form of an insect. The larva is covered in long, stiff hairs. When it is very young, it's black. As the larva grows, pairs of colored warts appear running down the center of its back. The warts are red on the rear half and blue near the head.

Before the larvae settle down to feed, they will spread out through the forest by "ballooning." This means that the larva climbs to the top of the tree, spins a thread and dangles from it. When a breeze catches the larva, away it goes, usually landing within 150 yards of where it started. Although, on occasion, the larvae are blown long distances. This is one way the gypsy moth travels to new areas.

In order to grow, the larva must shed its skin. Gypsy moth caterpillars will shed their skin 4-5 times, about once a week. It is the larval stage of the moth that causes all the damage to trees as the caterpillars feed on leaves. By July, the larvae have reached maturity.

When the gypsy moth population explodes, the feeding larvae can strip atree of leaves. This is called defoliation. Defoliation is very stressful for trees and can leave them so weak that they can be killed by other pests which would not normally bother them.

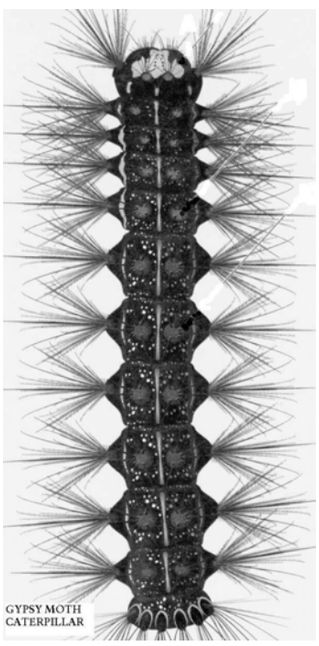
PUPA STAGE

This is the metamorphic stage. Within the pupal shell, the caterpillar's body is rearranging itself into an adult moth. The outer skin is reddish-brown and may be attached by several silk threads to a tree trunk, rock, or board, hiding itself from predators and parasites.

ADULT STAGE

The male gypsy moth is about 1 inch long and has brown wings with black, wavy markings. The antennae are large and shaped like a feather. The female is larger, about 1 ½ inches long. Her wings are white with black markings. Her body is covered in brownish-yellow "fur" and her antennae are thin. She has wings, but can't fly! From late July to early August, the gypsy moth will mate and the female will lay eggs. The adults die after mating.

What You Can Do



Informed and alert park visitors and neighbors can help stem the spread of these unwanted pests. Learn to recognize their life stages, from buff egg masses to caterpillar to pupa case to moth. Then, when visiting parks or camping, check the dim undersides of your vehicle and camping equipment with a flashlight for egg masses or dangling pupae that might try to hitch a ride to your next stop. Scrape and destroy any you find.

At home, locate any possible hiding spots in your yard. Check lawn furniture, behind sills, and in cracks of tree trunks. Douse any eggs and pupae you find with soapy water or bleach. Use gloves; some people are sensitive to the fuzz of egg masses or hairy caterpillars.

To protect special trees in your landscape, try banding. One method is to tie strong twine around the tree and trunk in long strips of burlap eighteen inches wide inside the string, folding half the burlap down to make a hiding place. Bands should be placed in April as a barrier to trap larvae migrating from the ground to the treetop or older caterpillars on the move. Mature caterpillars travel down the tree in daytime and creep back up for night feeding. Every day or so, collect and destroy any larvae hidden in the folds or the band will actually become a refuge for the caterpillars. Remove bands in early summer to prevent damage to the tree's growth.

In the long run, your participation as a monitor may be the best prevention measure. If you notice egg masses and leaf damage increasing in your neighborhood, notify your county or municipal authorities. Local experts will suggest how you can take part in the pest program. Your information will help to determine where control is needed.